

WHAT IS CLAIMED IS:

1. A method of perforating a subterranean well, the method
5 comprising the steps of:

actuating at least one perforating gun while the perforating gun is secured
to a tubular string in the well; and

retrieving the perforating gun from the well through the tubular string.

10 2. The method according to claim 1, further comprising the steps of:
securing the perforating gun to the tubular string; and
then positioning the tubular string in the well.

3. The method according to claim 2, wherein the positioning step
15 further comprises positioning the tubular string within casing lining a wellbore of
the well.

4. The method according to claim 1, wherein the actuating step further
comprises firing the perforating gun.

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5. The method according to claim 1, wherein the actuating step further
comprises unsuccessfully firing the perforating gun.

6. The method according to claim 1, further comprising the step of releasably securing the perforating gun to the tubular string using a release assembly interconnected in the tubular string.

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7. The method according to claim 6, wherein the retrieving step further comprises providing a minimum internal restriction of the release assembly at least as great as a minimum internal restriction of a remainder of the tubular string.

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8. The method according to claim 6, further comprising the step of interconnecting the release assembly in the tubular string so that the release assembly is above a packer on the tubular string when the tubular string is positioned in the well.

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9. The method according to claim 6, further comprising the step of interconnecting the release assembly in the tubular string so that the release assembly is below a packer on the tubular string when the tubular string is positioned in the well.

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10. The method according to claim 6, wherein the retrieving step further comprises engaging a profile of the release assembly with a retrieval tool conveyed through the tubular string.

11. A well perforating system, comprising:
a release assembly interconnected in a tubular string;
at least one perforating gun releasably secured to the tubular string by the
release assembly while the tubular string is conveyed into the well; and

5 the release assembly permitting the perforating gun to be retrieved from
the well through the tubular string, and permitting the perforating gun to be
separated from the tubular string in the well.

12. The system according to claim 11, wherein the release assembly has
10 a minimum internal restriction which is at least as great as a minimum internal
restriction of a remainder of the tubular string when the perforating gun is
retrieved from the well.

13. The system according to claim 11, wherein the release assembly has
15 a minimum internal restriction which is at least as great as a minimum internal
restriction of a remainder of the tubular string when the perforating gun is
separated from the tubular string in the well.

14. The system according to claim 11, wherein the tubular string is
20 positioned within casing lining a wellbore of the well.

15. The system according to claim 11, wherein the release assembly is positioned above a packer in the well.

16. The system according to claim 11, wherein the release assembly is
5 positioned below a packer in the well.

17. The system according to claim 11, wherein the release assembly includes a profile formed therein, and further comprising a tool engaged with the profile to cause the perforating gun to be released from the tubular string.

18. A release assembly for use in releasably securing at least one perforating gun to a tubular string positioned in a subterranean well, the release assembly comprising:

an outer housing having upper and lower connections for interconnecting
5 the housing in the tubular string;

an inner housing having a lower connection for interconnecting the perforating gun to the inner housing; and

a mandrel which is displaceable between a secured position in which the inner and outer housings are secured relative to each other, and a released
10 positioned in which relative displacement is permitted between the inner and outer housings.

19. The release assembly according to claim 18, wherein the inner housing lower connection is positioned radially inward relative to the outer
15 housing lower connection.

20. The release assembly according to claim 18, wherein the inner housing lower connection is positioned radially inward relative to the outer housing upper connection.

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21. The release assembly according to claim 18, wherein the inner housing is displaceable through the outer housing lower connection.

22. The release assembly according to claim 18, wherein the inner housing is displaceable through the outer housing upper connection.

5 23. The release assembly according to claim 18, wherein the inner housing has a maximum outer dimension which is less than a minimum internal restriction of the outer housing.

10 24. The release assembly according to claim 18, wherein the inner housing lower connection is positioned within the tubular string when the release assembly is interconnected in the tubular string.